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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,861	10/22/2003	Sean Christopher Erickson	03-1823	9543

7590 09/30/2004
LSI Logic Corporation
Legal Department - IP
MS D-106
1621 Barber Lane
Milpitas, CA 95035

EXAMINER

THOMAS, ERIC W

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 09/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/690,861	Applicant(s) ERICKSON ET AL.	
	Examiner Eric W Thomas	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

INTRODUCTION

The examiner acknowledges, as recommended in the MPEP, the applicant's submission of the amendment dated 8/3/04. At this point, claims 13-15 have been cancelled. Thus claims 1-12 are pending in the instant application.

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities:

Claim 8, line 2, the limitation, "the third outer plate" is confusing. The examiner examined this claim as if it depended on claim 7. Appropriate correction is required.

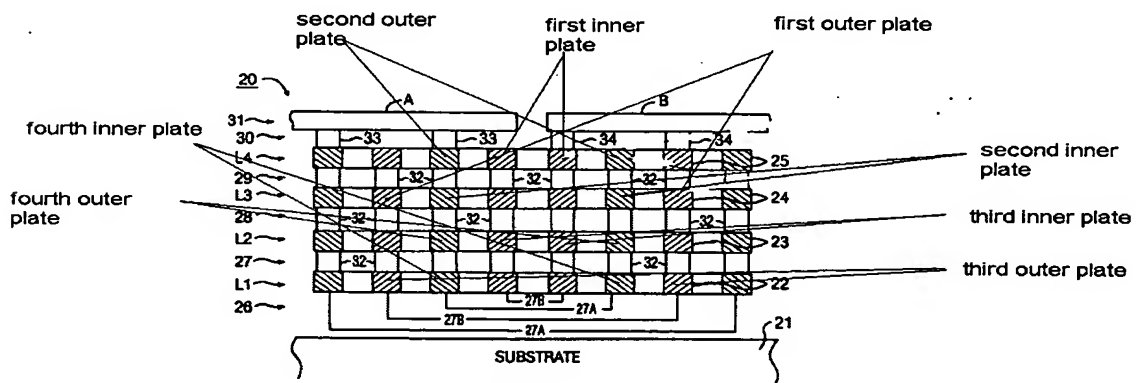
Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 7-9, 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Vathulya et al. (US 6,297,524).



Vathulya et al. disclose in fig. 2-4, a first conductive section (see above) having a first outer plate connected to a first inner plate; and a second conductive section having a second outer plate connected to a second inner plate, wherein the second inner plate is located within a first hole in the first outer plate and the first inner plate is located within a second hole in the second outer plate such that a first distance is present between the second inner plate and the first outer plate and a second distance is present between the first inner plate and the second outer plate.

Regarding claim 2, Vathulya et al. disclose the semiconductor capacitor is a complimentary metal-oxide semiconductor capacitor.

Regarding claim 3, Vathulya et al. illustrate in fig. 2, the first outer plate and the second outer plate have a rectangular shape.

Regarding claim 4, Vathulya et al. disclose the first distance is equal to the second distance (as illustrate in fig. 4).

Regarding claim 5, Vathulya et al. disclose the first distance is about $0.2\ \mu\text{m}$ and the second distance is about $0.2\ \mu\text{m}$ (see col. 3 lines 10-11)

Regarding claim 7, Vathulya et al. disclose a third conductive section (below first and second section – see the above fig) having an third outer plate connected to a third inner plate; and a fourth conductive section having a fourth outer plate connected to a fourth inner plate, wherein the fourth inner plate is located within a third hole in the third outer plate and the third inner plate is located within a fourth hole in the fourth outer plate such that a third distance is present between the fourth inner plate and the third outer plate and a fourth distance is present between the third inner plate and the fourth

outer plate and wherein the third conductive section and the fourth conductive section are located below the first and second conductive section.

Regarding claim 8, Vathulya et al. disclose the third outer plate is located below the first outer plate, fourth outer plate is located below the second outer plate, the third inner plate is located below the first inner plate, and the fourth inner plate is located below the second inner plate.

Regarding claim 9, Vathulya et al. disclose the first conductive section is connected to a third conductive section by a first set of via connections (32) and wherein the second conductive section is connected to the fourth conductive section by a second set of via connections (32).

Regarding claim 11, Vathulya et al. disclose the first conductive section and the second conductive section are formed from a metal layer (col. 4 lines 25-55).

Regarding claim 12, Vathulya et al. disclose the first outer plate is connected to the first inner plate by a first metal line (B) and wherein the second outer plate is connected to the second inner plate by a second metal line (A).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vathulya et al. (US 6,297,524).

Regarding claim 6, Vathulya et al. disclose the claimed invention except for the first second and the second section having a thickness of about 0.25 to about 0.45 μm . It would have been an obvious matter of design choice to form the first and second section having a thickness of about 0.4 μm , since such a modification would have involved a mere change in the size of a component, a change in size is generally recognized as being within the level of ordinary skill in the art. *In re. Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 10, Vathulya et al. disclose the claimed invention except for the first second is spaced apart from the third section by about 0.2 μm and the second section is spaced apart from the third section by about 0.2 μm . It would have been an obvious matter of design choice to space apart the first and third section by about 0.2 μm and space apart the second and the fourth section by about 0.2 μm , since such a modification would have involved a mere change in the size of a component, a change

in size is generally recognized as being within the level of ordinary skill in the art. *In re. Rose*, 105 USPQ 237 (CCPA 1955).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

4,875,083 – disclose a mis capacitor formed on silicon carbide.

6,410,954 – disclose a structure similar to Vathulya et al.

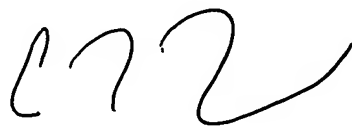
5,598,317 – disclose a semiconductor capacitor.

In order to ensure full consideration of any amendments, affidavits, or declaration, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116 which will be strictly enforced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on M,Tu,Sat 9 am - 9:30 pm; W, Th, F 6 pm -10:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



9/28/04

Eric W Thomas
Examiner
Art Unit 2831

ewt